

# AMERICAN MECHANICS' MAGAZINE, Museum, Register, Journal and Gazette.

Vol. II — No. 45.] SATURDAY, FEB. 11, 1826. [FOUR DOLLS. PER AN.

## MOTION ON RAILWAYS.

SIR,—Having read a pamphlet by the editor of the *Scotsman*, in which he sets forth a most extraordinary doctrine respecting accelerating forces, and their effects upon a wagon on a railway, permit me, through your useful miscellany, to state my opinion upon the subject.

Suppose a wagon to be so constructed as to be impelled by a wheel within it, somewhat like a tread mill, and upon this wheel a man were to be placed to give motion to it; suppose the weight of the man's body to be two hundred pounds, and that the weight of one hundred pounds were sufficient to put it in motion; it is evident that there would be a surplus, or disposable power, of one hundred pounds to accelerate the machine; therefore, according to the *Scotsman*, the motion could be increased in time, "beyond any assignable limit."

This I do not deny, providing that the man could increase his speed in the same ratio, without increasing his labour; but without this the motion would be uniform, and commensurate with the utmost speed the man could move at in giving it motion.

Now, according to what the *Scotsman* holds, the man's weight would be the power, which only he takes into the calculation, without considering the speed at which he would be obliged to travel, to communicate a given motion to the machine. He supposes the power the same at every rate of motion which, at a superficial view, it appears to be, as the man's weight is the same, at whatever rate he moves: but it is clear that his labour would be doubled, by walking twice as fast, to communicate a double motion to the machine, which is the same as a double power.

My view of the subject is this, that the man being able, with the half of his weight, to give motion to the ma-

chine, he has a store of power in the other half to give it what velocity he pleases, or, to speak more correctly, to give it what velocity he can keep pace with. Suppose that, at first, he gives it a velocity of two miles an hour, and the wheel upon which he travels to make the same number of revolutions as the wheels upon the rail road, and of equal diameter, it is evident that he would travel at the rate of two miles an hour: it is also evident that he must travel at the same rate; therefore his exertions are doubled, or the power expended (though in the same space of time) doubled. To suppose otherwise, would be to suppose an effect would be produced without a cause.

## ÆROLITE.

At a sitting of the Royal Academy of sciences in Paris, M. Humboldt presented to the Academy a fragment of a mass of meteoric iron, which was found in Columbia, at a short distance from Santa Fe de Bogota, near the summit of a mountain. The entire mass weighed 3500 pounds, and required great labour to remove it to the forge of a smith, who bought it for about five pounds, and who began by smelting a part of it with the intention of employing it for the use of his trade. Having, however, found it too brittle for his purposes, he gave up the idea of working it, and even concealed the remainder of it through a fear lest his credit might be injured if it were known he employed such an inferior article. Fortunately an eminent naturalist, M. Humboldt's correspondent, having accidentally learned the secret, obtained the mass of iron and analysed a part of it. The result of this analysis, by proving the existence of a certain quantity of nickel midgled with the ore, has put the

aerial origin of this mass beyond a doubt.—The aerolite of which M. Humboldt has presented a fragment to the academy, is one of the most curious mentioned in the history of science.

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#### SINGLE-WHEEL CLOCK.

SIR,—In your valuable Magazine, Number 41, page 234 there is a description of a Single-Wheel Clock, an article I have long desired to be in possession of but have two great objections to the one therein described. First because it only shows the hours; and, secondly, because a friend of mine in the country had one of the very same kind, and would never keep time within one hour and a half in twelve hours; but I am happy to say, Sir, that I am certain of having my desires gratified, as I have, through the medium of a friend, been favoured with a sight of one newly invented which shows the hours and minutes, and can also be made to show the seconds: and I have no doubt that these clocks will keep the most accurate time. There is something peculiarly interesting in this new invention; first, the neatness and elegance with which they may be made; secondly, the contrivance adopted for distributing the power equally; thirdly, the singular action applied to the dial-work, to keep the hands going correctly; lastly, that any person can take them to pieces, and put them together again in a few minutes; in short, Sir, I am free to confess, that I have not seen any thing that has gratified me more for some time past. But I must not be too liberal in giving a description as I am informed by the inventor, that he intends, at the request of several of his friends, to exhibit it for public inspection.

Your obedient servant, S. T.

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#### PREPARING DRAWING PAPER.

Reduce to a powder, and dissolve quickly in a glazed earthen vessel, containing cold waier, some gum adragant, having been well worked with a wooden spatula to free it from lumps.

There must be sufficient quantity of water to give to this diluted gum the consistence of a jelly. Paper, and some sorts of stuffs, upon which, if this composition be smoothly applied with a pencil, or a brush, and dried before a gentle fire, will receive either water or oil colours; in using water colours, they must be mixed with a solution of the above gum. This cloth or paper, so prepared, will take any colour except ink. When it is intended to retouch any particular part of the drawing, it should be washed with a sponge, or clean linen, or a pencil (containing some of the above mentioned liquid;) if the part is only small, it will then rise quickly and appear as if repainted.

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#### BURMESE IMPERIAL STATE CARRIAGE.

The Burmese State Imperial Carriage, which has been captured in the present sanguinary Indian war, has reached this country, and is now preparing for public exhibition. It is said to be, without exception, one of the most singular and splendid works of art that can possibly be conceived, presenting one entire blaze of gold, silver, and precious stone; of the latter the number must amount to many thousands, comprehending diamonds, rubies, sapphires (white and blue,) emeralds, amethysts, garnets, topas, cat eyes, crystals, &c. The carving is of a very superior description, the form and construction of the vehicle extraordinary, and the general taste displayed throughout the whole design is at once so grand and imposing, yet at the same time so chaste and refined, that we are told it may defy all rivalry even from European workmanship. The warlike power and resources of this surprising people at present exciting universal astonishment and attention: this new object attests the fact that, in taste for design, and skill in execution of works of art, their talents have been equally hidden and unknown to us. The carriage stands between twenty and thirty feet in height, and is drawn by elephants.

# INDEX

TO VOLUME THE SECOND.



## A

Asphaltum, or Jews' Pitch	18
Annatto, Ford's solution of	29
Air Pumps, with a hot water feeding branch	27
— and water engine	66
— in rooms, the circulation of	182
Apple trees, preservation of	73
Architecture, naval	54
— orders of	190
Alum	99
Anti-incendiary composition	153
Ale gallons, brief rules for calculating the number of contained in engine pumps or cylindrical pipes	157
Aerostation	184
Arcade	189
Animal Horn, on the working of	235
Abele tree	263

## B

Bleaching bees' wax	9
Bulged walls, restoration of	15
Blood, erroneous Judgment respecting apparen stains of	18
Brewers, hint to	20
Brown's gas engine	31
Bistre, preparation of	52
Ball clock	67
Baking machinery wanted	75
Bone black	78
Bismuth	79
Bone glue, on making	95
Bleaching, Dutch mode of	95

Bakers bread, hurtful influence of	99
Breakwater, a Roman	89
Benefit societies	138
Boot Jack, a cheap, infallible and portable one	140
Bergamot oranges	161
Blowpipe, an improved simple one	174
Brickmaking	185
Barometers, practical directions for constructing	192
Bees, vision and memory of	219
Bronze, best method of making	231
Breakwater at Philadelphia	242
Bolance crane, or apparatus for lifting heavy goods	264
Bug destroyer	268
Birds mistaken for meteors	269
Bottles corked and sunk in the ocean	270
Balloon	271
Blockrock harbor	287
Botanical observations	288
Bridge, an extraordinary one	289

## C

Charpoy, or Indian ferry boat	9
Coating cast iron with tin	10
Copper sheathing	11
Chtp hats on the manufacture of	28
Coffee shrub, coffee beans, and coffee drink	32
Canal, mode of digging a during frost	36
Centrifugal forces	44
Carnine, preparation of	45

# INDEX

Concentric chuck for turning	49	Encouragement of discoveries and inventions	125
Congreve's moveable ball clock	67	Expeditions workmanship	140
Calculating blind boy	72	Embroidery, on tracing designs for	144
Compass, effects of iron masts and iron steam chimnies on	74	Eggs, to preserve	165
Carmines, on the preparation of	76	Evaporation, rapid	167
Camphire, on the refining of	77	Egyptian ore	190
Chessmen	84	Education, improved system of	238
Cabinet woods, on foreign	98	Etruscan vases	269
—work, on Italian	125		
Cider, to make good	126	<b>F</b>	
Church clocks of wood	151	Flat surfaces of metal	29
Capillary tubes	154	Ford's chemical liquid	29
Copper, white	158	Fire, Ford's patent mixture for preventing	29
Cornish mine, mode of working	161	Fly wheels, effects of	34
Copper, hollow grains of	163	Fire proof and plank floor	42
Caterpillars, pattern drawing	166	Ferguson, account of Mr.	50
Customs considered superstitious are not always such	ib.	Fire arms, Baker's regulating screw for the main spring of	52
Cement, a useful portable one for putting sheets of paper together	167	Firewood, economy in	68
Chinese figure stone as a pyrometer	173	Forge, Spencer's patent	53
Candles with wooden wicks	176	Fly and band wheel	83
Charcoal	189	Filtering apparatus, improved	91
Carriages on railways, plan for shifting	192	Food, quality of in reference to the habits of life	97
Cutting screws	205	Fire, methods of producing	113
Concrete numbers, nature and properties of	205	Footballs and balloons	127
Centre of gyration	206	Forge, an Arabs	139
Carriage, why is it lighter when at motion than at rest	209	Fire on board ships, to extinguish	192
Cows, to determine the economy of	219	Fine arts	215
Cabinet maker's guide	223	Fire, the best means of lighting	253
Canal, the	221	Flexible marble	265
—tolls	231	Flat roofs, covering for	275
Clock, a single wheel	234		
—work, Mr Burnett's patent to the construction of	245	<b>G</b>	
Copper, its influence on magnetic needle	278	Gas tubes, the manufacture of	6
Canal of Florida	284	—machine, Cecil's hydrogen	8
		—engine, Brown's	31
		—lamp portable	71
		—vacuum engine, Brown's	94
		—manufactory, natural	173
		Grape Drink	48
		Gold, an improved mode of separating it from silver	113
<b>D</b>		Glass beads, on the manufacture of	126
Dry rot, on stopping the	9	Gravitating forces	124
Double inclined plane, and inland boat navigator by steam	21	Gold beater's skin	131
Davidson's letter	42	Glue for black shagreen paper case makers	164
Darkness not matter	92	Gunnery	150
Daniade	107	Geomara	169
Damp in rooms	139	Glasses for spectacles and optical instruments, on grinding	195
Drawing the segment of a circle	152	Garget in cows, cure for the	229
Dead lime	180	Grease spots, to extract from linen	250
Devil's tree	230	Gymnotus, or electric eel	284
Disagreeable noise	231		
Deaf and dumb	255	<b>H</b>	
Diving bell, arduous work with	265	Horse boats	11
Drift of ships at sea	265	Hood and mouth piece	41
		Human labour, on the mechanical power of	61
<b>E</b>			
Engraving on steel plates	25		
Electric fluid, motion of the	84		
Entomology	116		

- Hydraulic pumps 35  
 Hydrometer, antiquity of the 95  
 Horse chesnuts, paste from 106  
 Humble genius, necessity of protecting 130  
 Hydrostatic lift, economical 134  
 Hottentot rope makers 152  
 Heat, the increased length of bodies by 163  
 Horses, on the force exerted by 177  
 Hemp and flax, method of dressing 216  
 Heat, different degrees of imbibed from the sun, by cloth of various colours 223  
 Hirunda Fulva 231  
 Horses' feet, to cure diseases in 234  
 Hygrometer, Weekes' 261  
 Hydrophobia 265  
 Hauging garden 279  
 ————— of Babylon 283
- I**
- Indian ferry boat 9  
 Iron masts 19  
 Inland boat navigator by steam 21  
 Indigo, manufacture of 40  
 Iron and steel, on their characteristic difference 109  
 Insects, to destroy 154  
 Iron soap 153  
 ————— action of sulphur on 158  
 ————— tenacity of 234  
 Ink for printing on linen with types to make 254
- K**
- Kedging or a new mode of sailing 224
- L**
- Lime, on the weight acquired by lacquer, receipts for 30  
 Lobsters and crabs, colour 44  
 Lock security, combination 86  
 Lead pencils, hard black 88  
 Lamp black and other substances taking fire of themselves 94  
 Liquids, plan of heating and cooling 103  
 Leather, Russian manner of preparing 149  
 Life preserver 179  
 Ixative powder 213  
 Linen and cotton spinning in France 221  
 Light boxes, instantaneous 225  
 Lead mines 253  
 Leather waistcoats 255  
 Laden pipes, strength of 270  
 ————— 281
- M**
- Mechanical geometry 12  
 Mechanic's institutions, Lord Byron's opinion of 170  
 Fine apples, to raise by steam 262
- Marquis of Worcester's ninety-ninth invention 20  
 Madder as a dye drug 27  
 Melting Pots, Marshall's improved 28  
 Measure, a new imperial 87  
 Meridian lines, French machine for taking 90  
 Magnetism of the human body 98  
 Mouth glue for joining sheets of drawing paper 120  
 Metal, a new 141  
 Magnet, anecdote of George III respecting the 167  
 Miniature pictures, paper ground for 173  
 Minosa bark for tanners 179  
 Marble preservative of 189  
 Music its effect on animals 206  
 Metallic casts from engravings on copper 207  
 Magnesia, mistake in taking 216  
 Mock suns 220  
 Message of Governor Clinton 272
- N**
- Notice to patrons 20  
 Navigation locks 101  
 ————— French discovery in 208  
 Naval 215
- O**
- Oil colours, syringes for 30  
 Ogg's lecture 41  
 Oak beams, rule for the use of 49  
 Oil for watchmakers, on preparing 122  
 —————, on purifying 152  
 Ovens, improved 126  
 Orrery, description of an 181  
 Oak timber, felling and seasoning 156  
 ————— beame, strength of 162
- P**
- Patent, Mr. Barton's 8  
 Porter made in London or Paris, cause of the difference of 62  
 Porcelain or china, on the manufacture of 63  
 Pin grinder's safety apparatus 73  
 Portland stone, on the flexibility and strength of 112  
 Printing, origin of machine 112  
 Playing cards the making of common French 114  
 Pottery, on the manufacture of 123—174  
 Palladium, examination of 147  
 Perforating metal 148  
 ————— classes, Rev. Edward Irving's opinion of the education of 172  
 Paper for the prevention of forgery in bank notes 165  
 Paints, Chinese 183  
 Primitive colours 184  
 Plough, a patent 282



Perpetual motion	191	Silvering and gilding by powdered tin	111
—clocks	194	Stones, simple mode of splitting	165
Plate powder	195	Shagreen, on the making of real	169
Puzzle, king Charles	208	Splendid projects	174
Pyrophorous, or instantaneous fire lighter	210	Sluice doors and flood gates hanging	177
President's message	ib.	Straw bonnets, machine for pressing	182
Primitive colours	233	Sugar manufactured from beet root	185
<b>Q</b>			
Quadrant and practical navigator	155	Spirits, rectifying	189
Queries	211, 260, 267	Sea, level of the	190
<b>R</b>			
Ropes, strength of	116	Smelting furnace, a chillian	206
Russian workmen	45	Silver mines	210
Razors, on setting	203	Seeds, to preserve	221
Rifles, on loading	207	Sponge, on bleaching	236
Redwater in cattle, to cure	220	Small pox, a cure for	238
River on fire	221	Sound of artillery increased	255
Reaping corn	238	Stones, to split large	256
<b>S</b>			
Strength, of human, its proposed application to the greatest possible advantage	5	Silk loom, new	270
Steam engine without a boiler	23	Suspension bridge	282
—horses	10	Scarlet colour, new	289
—engine, new	33	Steeple clocks, on lighting	290
—pipe joints, improvement in	83	Shipwreck, plan for saving lives from	67
—engines, comparative cost of	34	Smoke of iron furnaces, to consume	121
—washing box	106	Shoemakers awls	142
—boilers, plan for consuming the smoke	118	Statues in bronze	144
—boilers, economy of fuel in the heating	119	Steel, improved process of hardening	151
—boat with one wheel in its centre proper for canal or river navigation, plan for a	129	<b>T</b>	
—carriages	151	Tracing by means of oiled silk	62
—engines, plan to prevent corrosion of the working parts of	157	Tret, on the origin of	63
—engine, new	173	Tanning, improved method of	71
—coach, new	197	Telescope, refracting	74
—navigation	202	Turkeys, machine for unsinewing	142
—boilers, improvement in for burning Lehigh coal	220	Treacle, manufacture of at Venice	157
—forge hammer	229	Terras mortaa from limestone	168
Square root, extraction of the	24	Tanning	209
Steel plates, engraving on	25	—Hottentot mode of	195
Syringes for oil colours	30	Turnips, to destroy the fly on	219
Screw, Hunter's improved	44	Tunnel under the Thames	277
Sulphate of lead, uses which may be made of	45	<b>U</b>	
Straw hats, on the manufacture of	47	Umbrella rings, improvement on	190
Soap	49	<b>V</b>	
Steel, natural or German	59	Vision, instance of extraordinary	72
Sugar of lead, manufacture	60	Vegetable oils, relative burning of	95
Sieve plates, to prevent breaking	68	Verdigris, manufacture of	111
Strength of French working men	80	Varnishing coach bodies	191
—silver plate, to give lustre to	84	Variety	212
—gunners; advice to	94	Varnish used for Indian shields	226
—seller, the life of a	96	—makers a hint to	238
—setting cutlery goods	110	<b>W</b>	
		Warping vessels up rapids	39
		Wheat, Tuscan method of grinding	7
		Warlike missile	64
		Washing machine	65
		Wine, mode of improving	81
		Wooden vessels, to boil water	82
		Water mill, to add horse or other power	84
		Waxed or varnished cloth	90
		Water, curious action of on melted glass	129

IN A FEW DAYS WILL BE PUBLISHED.

THE  
**FRANKLIN JOURNAL.**

AND  
**AMERICAN MECHANICS MAGAZINE.**

DEVOTED TO THE MECHANIC ARTS, INTERNAL

IMPROVEMENTS AND GENERAL SCIENCE.

Under the patronage of the Franklin Institute of the State of Pennsylvania.

EDITED BY DR. THOMAS P. JONES.

PROFESSOR OF MECHANICS IN THE INSTITUTE.

**ADDRESS.**

The prospectus of the 'Franklin Journal' has been for some months before the public; at the time it was issued the Editor resided in a distant part of the United States, and was engaged in a pursuit which prevented his removal to Philadelphia until the commencement of the next year. It was his intention to publish the first number early in January; this, however, he has not been able to effect; yet he has thought the better candidate a month, as he will in the course of the year complete twelve numbers, making two volumes of nearly four hundred pages each.

It was at first proposed to publish a single sheet every week, in the manner of the "Mechanics Magazine," and other similar works published in London; but the Editor has upon mature consideration deemed it expedient to make it a monthly, instead of a weekly publication; and he represents the reasons which have weighed with him in making this alteration, will be satisfactory to his subscribers generally. He is unwilling that the Journal should be a mere book of recipes and notices, "a thing of shreds and patches," this would neither satisfy the Editor, or supply the wants of the intelligent artisans and manufacturers of our country. Every number will contain a variety of processes in the mechanical and chemical arts; but is intended also to insert articles of general interest, and of greater length than would be found convenient on a single sheet: it is also designed to embrace a greater variety of topics than was at first contemplated, and in general to devote a part of every number, to each of the leading subjects included in the work.

Under the following heads will be introduced a great variety of matter, interesting to the artisan and to the man of general reading.

1st. The transactions of the Franklin Institute, and of other similar establishments.—2nd. Mechanics.—3rd. Natural Philosophy.—4th. Chemistry particularly in its application to the arts.—5th. American Inventions and discoveries, whether patented or not.—6th. American Manufactures.—7th. General improvements.—8th. Natural History.—9th. Mineralogy.—10th. Botany.—11th. Mathematics.—12th. Architecture.—13th. Fine Arts.—14th. Education.

13th. Husbandry and Rural affairs, particularly as regards the implements used, and the production of silk, wool, cotton, dye-stuffs, and other articles employed in manufactures.—14th Mechanical Jurisprudence.—15th. Foreign Journals, inventions, discoveries, and patents.—16th Notices and Reviews of publications relating to the Arts and Manufactures.—17th Miscellaneous articles, consisting of recipes, processes, &c.

It will readily be perceived that a number of subjects are mentioned, with which the Editor cannot pretend to be familiarly acquainted; he has not however "recloned without his host," as he is assured of the aid of gentlemen, whose stations and talents are a sufficient pledge for the able manner in which they will fulfil their engagements. All the articles of general interest, emanating from the Society for the encouragement of Internal Improvements, will pass through the hands of the Editor, and will occupy a portion of every number. The journals of our own country, devoted to science and the mechanic arts, and those of England, France, and Germany, will be carefully examined, and their most useful materials employed; when not written in a style intelligible to the generality of readers, they will be in this respect altered, and when unnecessarily prolix, abridged.

Gentlemen who furnish communications for the Franklin Journal, are requested always to keep in view, that its main object is to diffuse information among artisans and manufacturers; and it is therefore necessary to write in a style as familiar, and as little technical as the nature of the subject will admit. The Editor will claim and exercise the right of acting according to his own judgment respecting every article communicated for publication; and when the authors unknown, he will either insert, reject, alter or abridge, as he may deem best. He earnestly solicits the aid of intelligent mechanics and manufacturers, and assures them that although they may not always be as ready with the pen as with the implements of their respective trades, their offerings will be acceptable, and that the labour of revision, when requisite, will be cheerfully performed.

The age of secrets in arts and trades has nearly passed away; in these pursuits, as well as in that of commerce, liberal views are generally entertained, and free and open intercourse is acknowledged to be the best policy. The Journal will be a ready vehicle for enquiries and replies upon all subjects within its purview: and will enable the artisans and others, to obtain information which might otherwise be sought in vain.

Patentees who wish to make their inventions known through the medium of the Journal, will be expected in all instances to furnish the plates or cuts necessary for that purpose; and must submit to a free, but liberal examination into the originality and merits of their invention.

The Editor will willingly open his work to the discussion of every subject upon which it treats; in doing this he will carefully avoid appearing as a partisan but will act as moderator so far as to prevent his pages from being sullied by malevolence, or offensive personalities.

**TERMS.—**The Journal will be published monthly, each number will contain sixty-four pages, octavo, forming, annually, two volumes of nearly four hundred pages each. It will be printed on good paper, with well executed engravings on wood, and occasionally on copper.

Subscription, \$1 per annum, payable on the completion of the first volume. Single numbers 50 cents each. Subscribers in the city will be served by a carrier; those at a distance, may receive it by mail, or in any way they may direct.

Advertisements relating to the Mechanic Arts, will be inserted on the covers, on the usual terms.



All communications must be post paid, and may be addressed to the Editor or to Judah Dubson, Agent, No. 103 Chesnut-street Philadelphia.

The Editor has made arrangement with the proprietor of the "American Mechanics' Magazine," published in New-York, by which that work is transferred to him. The Franklin Journal will issue in Philadelphia and to New-York on the same day, and the subscribers to the Magazine will be regularly served with the Journal. Communications will be received by S. C. Schenk, 252 Broadway, who will immediately transmit them to the Editor.

At a meeting of the Franklin Institute held January 19th, 1826 it was on motion,

Resolved, "That the meeting view with pleasure, the prospect of the Franklin Journal being issued by so able an Editor as the professor of Mechanics in the institute, and recommend it to the support of their fellow citizens."

G. V. MERRICK, Secretary